

Seq# 001		Line Name: MGL1212MCS11		NAVIGATION		DATE: 2012-07-13		 	
		Line Brg : 350.3 °		LINE LOGS		JULIAN DAY: 195			
CLIENT: Steve Holbrook - PI				SURVEY: Cascadia				AREA: Cascadia	
DC SOL : -212.4m		DEPTH SOL : 1937.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : 1.7m		DEPTH EOL : 1893.9m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.7 knots		FEATHER SOL: 133.1 in turn °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 3.3 knots		FEATHER EOL: -3.5 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: -3.5 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 19 knots				MAG DEC USED : 16.23°					
WIND EOL: 18 knots		<u>shift hours</u> <u>shift leaders</u>		<u>shift hours</u>		<u>watch personnel</u>		<u>shift hours</u> <u>watch personnel</u>	
SEAS SOL: 2.0m		19:00 – 07:00 utc => david martinson		19:00 – 01:00 utc => Dalton, Jackie, Kate		01:00 – 07:00		Harold, Marie, Brady	
SEAS EOL: 3.0m		07:00 – 19:00 utc => mike martello		07:00 – 13:00 utc => Dara, Jeff, Ashton		13:00 – 19:00		Annie, Brian, Janine	
SP	TIME(UTC)	EVENT	COMMENTS						
838	09:38	SOL	Start of Line						
1364-1474	12:44-13:37	spectra	mn - status grayed out - restart did not help - move lmn to spectra 1 to get spectra up in shooting mode.						
	16:18	multibeam	Start Bist						
	16:26	multibeam	Passed bist and logging						
2064	17:26	EOL	end of line early d/t gun buoy breaking.						
2063	17:26	LGSP	Last good shot point.						
			NAVIGATION OFFSET APPLIED						
			NRP - Stern 29.5m						
			NRP - COS 240.0m						
			NRP - CNG 504.0m						
			COS - CNG 264.0m						
			NRP - CMP 372.0m						
			Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy						
			<div style="display: flex; justify-content: space-around;"> <div> P1 MGL1212MCS1.p190 </div> <div> P2 MGL1212MCS11.p294 </div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1212.LMN Source:SCN(001) mgl2010.RTCN		
Tailbuoy #1	good	Gun string #1	na					SP spacing: 50.0m	
		Gun string #2	good					line status: considered complete	
		Gun string #3	good						
		Gun string #4	na						

<u>P1</u>	<u>P2</u>
MGL1212T01.p190	MGL1212T01.p294

Page 1


MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:	complete		

DATE: 2012-07-10
JULIAN DAY: 198

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MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

Seq# 009		Line Name: MGL1212MCST03		NAVIGATION		DATE: 2012-07-17			
		Line Brg : 176.4 °		LINE LOGS		JULIAN DAY: 199			
CLIENT: Steve Holbrook - PI				SURVEY: Cascadia		AREA: Cascadia			
DC SOL : 129.2m		DEPTH SOL : 2616.4m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -215.5m		DEPTH EOL : 2567.6m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.2 knots		FEATHER SOL: -85.2 turning °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 3.6 knots		FEATHER EOL: 4.9 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 5.4 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 16 n knots				MAG DEC USED : 16.23°					
WIND EOL: 10 nnw knots		shift hours		shift leaders		shift hours		watch personnel	
SEAS SOL: 2.0m		19:00 – 07:00 utc =>		david martinson		19:00 – 01:00 utc =>		Dalton, Jackie, Kate	
SEAS EOL: 1.0m		07:00 – 19:00 utc =>		mike martello		07:00 – 13:00 utc =>		Dara, Jeff, Ashton	
01:00 – 07:00						01:00 – 07:00		Harold, Marie, Brady	
13:00 – 19:00						13:00 – 19:00		Annie, Brian, Janine	
SP	TIME(UTC)	EVENT	COMMENTS						
15530	10:55	SOL	Start of line - bird 18 not working.						
	11:29	Pam	Pick up for inspection						
	11:44	Pam	redeployed.						
15788	12:47	EoL	End of line						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
FSP			15530		46° 31' 17.109"		-126° 03' 37.193"		
LSP			15788		46° 24' 23.527"		-126° 02' 10.274"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern 29.5m						
			NRP - COS 240.0m						
			NRP - CNG 504.0m						
			COS - CNG 264.0m						
			NRP - CMP 372.0m						
			Note: LMN line parameter set to great circle line						
			Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy						
			<div style="display: flex; justify-content: space-around;"> <div>P1 MGL1212MCST03.p19c</div> <div>P2 MGL1212MCST03.p294</div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1212.LMN Source:SCN(001) mgl2010.RTCN			
Tailbuoy #1	good	Gun string #1	na				SP spacing: 50.0m		
		Gun string #2	good				line status: complete		
		Gun string #3	good						
		Gun string #4	na						

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

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SP spacing:		50.0m	
line status:		complete	

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:	complete		

[illegible]

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:	complete		


Seq# 017		Line Name: MGL1212MCS02		NAVIGATION		DATE: 2012-07-20		 																							
		Line Brg : 82.4 °		LINE LOGS		JULIAN DAY: 202																									
CLIENT: Steve Holbrook - PI				SURVEY: Cascadia		AREA: Cascadia																									
DC SOL : 389.9m		DEPTH SOL : 2590.2m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																											
DC EOL : 394.0m		DEPTH EOL : 931.0m		NAVIGATION SYSTEM USED: SeaPath 200																											
SMG SOL: 4.6 knots		FEATHER SOL: 92.5 °		NAVIGATION SYSTEM USED: C-Nav2000																											
SMG EOL: 4.7 knots		FEATHER EOL: .5 °		GRAVITY METER: BMG-II: used, SN210																											
<u>WEATHER</u>		MAX FEATHER: 92.5 °		MAGNETOMETER: GeoMetrics: used																											
WIND SOL: 3WNW knots				MAG DEC USED : 16.23°																											
WIND EOL: 5NE knots																															
SEAS SOL: 1.0m		shift hours shift leaders		shift hours watch personnel		shift hours watch personnel																									
SEAS EOL: 1.0m		19:00 – 07:00 utc => david martinson		19:00 – 01:00 utc => Dalton, Jackie, Kate		01:00 – 07:00		Harold, Marie, Brady																							
		07:00 – 19:00 utc => mike martello		07:00 – 13:00 utc => Dara, Jeff, Ashton		13:00 – 19:00		Annie, Brian, Janine																							
SP	TIME(UTC)	EVENT	COMMENTS																												
27580	17:08	SOL	SOL																												
28006	19:33	Volume	Power down to mit gun - whale 40 in3																												
28084	19:58	Volume	Full Power 6560 in3																												
28250	20:55	Volume	Power down to mit gun - whale 40 in3																												
28303	21:12	Volume	Full Power 6560 in3																												
28797	23:59	Midnight	midnight shot point																												
29524	0409	EOL	EOL																												
			<div style="text-align: center; margin-bottom: 10px;">VESSEL POSITION</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>27580</td> <td>46° 52' 17.500"</td> <td>-126° 19' 11.652"</td> </tr> <tr> <td>LSP</td> <td>29524</td> <td>46° 58' 57.969"</td> <td>-125° 03' 14.375"</td> </tr> </tbody> </table> <div style="text-align: center; margin-bottom: 10px;">NAVIGATION OFFSET APPLIED</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>NRP - Stern</td><td>29.5m</td></tr> <tr><td>NRP - COS</td><td>240.0m</td></tr> <tr><td>NRP - CNG</td><td>504.0m</td></tr> <tr><td>COS - CNG</td><td>264.0m</td></tr> <tr><td>NRP - CMP</td><td>372.0m</td></tr> </tbody> </table> <p style="font-size: 0.8em; margin-top: 10px;">Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy</p> <div style="text-align: center; margin-top: 20px;"> <p>P1 P2</p> <p style="font-size: 0.7em;">MGL1212MCS02.p190 MGL1212MCS02.p294</p> </div>								Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	27580	46° 52' 17.500"	-126° 19' 11.652"	LSP	29524	46° 58' 57.969"	-125° 03' 14.375"	NRP - Stern	29.5m	NRP - COS	240.0m	NRP - CNG	504.0m	COS - CNG	264.0m	NRP - CMP	372.0m
	Shotpoints	Latitude (N / +)								Longitude (W / -)																					
FSP	27580	46° 52' 17.500"								-126° 19' 11.652"																					
LSP	29524	46° 58' 57.969"								-125° 03' 14.375"																					
NRP - Stern	29.5m																														
NRP - COS	240.0m																														
NRP - CNG	504.0m																														
COS - CNG	264.0m																														
NRP - CMP	372.0m																														
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:																												
Tailbuoy #1	good	Gun string #1	na																												
		Gun string #2	good																												
		Gun string #3	good																												
		Gun string #4	na																												
				MGL1212.LMN		Source.SCN(001)		mgl2010.RTCN																							
				SP spacing:		50.0m																									
				line status:		complete																									

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

Seq# 019		Line Name: MGL1212MCST07		NAVIGATION		DATE: 2012-07-21		 	
		Line Brg : 75.6 °		LINE LOGS		JULIAN DAY: 203			
CLIENT: Steve Holbrook - PI				SURVEY: Cascadia		AREA: Cascadia			
DC SOL : 13.6m		DEPTH SOL : 85.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -123.8m		DEPTH EOL : 40.2m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.6 knots		FEATHER SOL: 9.3 °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 3.5 knots		FEATHER EOL: 3.0 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 9.3 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: variable knots				MAG DEC USED : 16.23°					
WIND EOL: calm knots									
SEAS SOL: <1.0m		shift hours 19:00 – 07:00 utc => david martinson		shift hours 19:00 – 01:00 utc => Dalton, Jackie, Kate		shift hours 01:00 – 07:00		watch personnel Harold, Marie, Brady	
SEAS EOL: <1.0m		07:00 – 19:00 utc => mike martello		07:00 – 13:00 utc => Dara, Jeff, Ashton		13:00 – 19:00		Annie, Brian, Janine	
SP	TIME(UTC)	EVENT	COMMENTS						
32006	08:59	SOL	SOL 40 in3						
32085	09:33	streamer	lost all compass values						
32134	09:57	streamer	compasses back						
32186	10:20	Spectra	NCC lock up - lost shotpoints 32186-32196						
	11:26	Start turn	start turn port						
32341	11:34	EOL	End of line 40in3						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	32006	46° 58'	56.526"	-124° 34' 13.391"		
			LSP	32341	47° 01'	15.246"	-124° 21' 26.864"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.5m				
			NRP - COS		232.0m				
			NRP - CNG		na				
			COS - CNG		na				
			NRP - CMP		na				
			Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy						
			<div style="display: flex; justify-content: space-around;"> <div> P1 MGL1212MCST07.p19c </div> <div> P2 MGL1212MCST07.p294 </div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1212.LMN Source:SCN(001) mgl2010.RTCN				
Tailbuoy #1	good	Gun string #1	na						
		Gun string #2	good						
		Gun string #3	good						
		Gun string #4	na						
				SP spacing: 50.0m					
				line status:		complete			

P1 **P2**
12NTMCS01.p19 MGL1212NTMCS01.p294

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

Seq# 022		Line Name: MGL1212MCS10		NAVIGATION		DATE: 2012-07-22																									
		Line Brg : 175 °		LINE LOGS		JULIAN DAY: 204																									
CLIENT: Steve Holbrook - PI				SURVEY: Cascadia		AREA: Cascadia																									
DC SOL : -29.0m		DEPTH SOL : 1738.5m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																											
DC EOL : 14.6m		DEPTH EOL : 1733.6m		NAVIGATION SYSTEM USED: SeaPath 200																											
SMG SOL: 4.6 knots		FEATHER SOL: -68.7 °		NAVIGATION SYSTEM USED: C-Nav2000																											
SMG EOL: 3.8 knots		FEATHER EOL: 2.7 °		GRAVITY METER: BMG-II: used, SN210																											
<u>WEATHER</u>		MAX FEATHER: 4.8 °		MAGNETOMETER: GeoMetrics: used																											
WIND SOL: 10 SW knots				MAG DEC USED : 16.23°																											
WIND EOL: 8W knots																															
SEAS SOL: 1.0m		shift hours shift leaders		shift hours watch personnel		shift hours watch personnel																									
SEAS EOL: 1.0m		19:00 – 07:00 utc => david martinson		19:00 – 01:00 utc => Dalton, Jackie, Kate		01:00 – 07:00		Harold, Marie, Brady																							
		07:00 – 19:00 utc => mike martello		07:00 – 13:00 utc => Dara, Jeff, Ashton		13:00 – 19:00		Annie, Brian, Janine																							
SP	TIME(UTC)	EVENT	COMMENTS																												
35092	0019	SOL	SOL 6560 in3																												
35146	0038	Volume	Power Down for Porpoises																												
35194	0055	Volume	Full Power 6560 in3																												
35591	0319	Volume	Shutdown for marine mammals																												
35678	0330	Volume	Start mitigation gun																												
35657	0347	Volume	Ramp up initiated																												
35764	0427	Volume	Full Power 6560 in3																												
36775	11:11	EOL	end of line volume 6560in3																												
			<div style="text-align: center;">VESSEL POSITION</div> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td>Shotpoints</td> <td>Latitude (N / +)</td> <td>Longitude (W / -)</td> </tr> <tr> <td>FSP</td> <td>35092</td> <td>47° 06' 45.769"</td> <td>-125° 25' 27.753"</td> </tr> <tr> <td>LSP</td> <td>36775</td> <td>46° 21' 42.512"</td> <td>-125° 20' 08.485"</td> </tr> </table> <div style="text-align: center;">NAVIGATION OFFSET APPLIED</div> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>240.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>504.0m</td> </tr> <tr> <td>COS - CNG</td> <td>264.0m</td> </tr> <tr> <td>NRP - CMP</td> <td>372.0m</td> </tr> </table> <p>Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy</p> <div style="text-align: center; margin-top: 20px;"> <p>P1 P2</p> <p>MGL1212MCS10.p190 MGL1212MCS10.p294</p> </div>								Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	35092	47° 06' 45.769"	-125° 25' 27.753"	LSP	36775	46° 21' 42.512"	-125° 20' 08.485"	NRP - Stern	29.5m	NRP - COS	240.0m	NRP - CNG	504.0m	COS - CNG	264.0m	NRP - CMP	372.0m
	Shotpoints	Latitude (N / +)								Longitude (W / -)																					
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Posnet locations & remarks: good - none - intermittent			Acoustic remarks:																												
Tailbuoy #1	good	Gun string #1	na																												
		Gun string #2	good																												
		Gun string #3	good																												
		Gun string #4	na																												
				MGL1212.LMN		Source.SCN(001)		mgl2010.RTCN																							
				SP spacing:		50.0m																									
				line status:		complete																									

DATE: 2012-07-22
JULIAN DAY: 204

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	

MGL1212.LMN		Source.SCN(001)	mgl2010.RTCN
SP spacing:		50.0m	
line status:		complete	